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THE CORRELATION OF MAYA AND CHRISTIAN
CHRONOLOGY

BY

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THE CORRELATION OF MAYA AND CHRISTIAN
CHRONOLOGY

ONE of the most important problems in American Archaeology is the correlation of the Maya system of counting time with our own. Long before the first appearance of the white man in the Western World, the Maya race of Central America and Southern Mexico had developed an accurate system of reckoning time and recording events. So accurate indeed is this aboriginal chronology that were it possible to translate a single Maya date into the corresponding notation of our own calendar, the age of all the great cities of the Maya culture would be known, probably more exactly than the age of Nineveh, Babylon, or even Rome. Already the broader lines of Maya History have been traced. The general northward trend of migration within the area has been established. The rise and fall of the larger cities relative to each other have been worked out. Even the periods of time during which they were occupied, expressed in Maya notation, have been reduced to years, as we understand that term. There remains, however, the much more difficult task of bringing Maya Chronology into accordance with our own, and of changing the dates of the one system into the corresponding dates of the other. To accomplish this, some kind of an American Rosetta Stone is required, which will set forth the Maya equivalent of a known date in our own calendar. The nearest approach to such a chronological key is that class of manuscripts known as The Books of Chilan Balam.

The Books of Chilan Balam were copied or compiled in Yucatan by natives during the sixteenth, seventeenth, and eighteenth centuries, from much older manuscripts now lost

or destroyed. They are written in the Maya language in Latin characters, and treat, in part at least, of the history of the country before the Spanish Conquest. Each town seems to have had its own book of Chilán Balam, distinguished from others by the addition of the name of the place where it was written, as: The Book of Chilán Balam of Mani, The Book of Chilán Balam of Tizimin, and so on. Although much of the material presented in these manuscripts is apparently contradictory and obscure, their importance as original historical sources cannot be overestimated, since they constitute the only native accounts of the early history of the Maya race, which have survived the vandalism of the Spanish Conquerors. Of the sixteen Books of Chilán Balam now extant, only three, those of the towns of Mani, Tizimin, and Chumayel, contain historical matter. These have been translated into English, and published by Dr. D. G. Brinton under the title of "The Maya Chronicles." This translation with a few corrections has been freely consulted in the following discussion.

In all, there are five of these chronicles: one from the Mani manuscript, one from the Tizimin manuscript, and three from the Chumayel manuscript. Each of these chronicles contains a more or less consecutive arrangement of twenty-year periods called, in Maya, *katuns*, after each one of which is set down the event or events that occurred during its course. These accounts are, in reality, little more than chronological synopses of the history of the country. They are called in The Books of Chilán Balam variously: "The Record of the *Katuns*," "The Record of the Count of the *Katuns*," "The Arrangement of the *Katuns*" and "The Order of the *Katuns*." These names suggest, what the manuscripts are in fact found to contain, sequences of *katuns* or twenty-year periods during which happened the events recorded.

When it became necessary to fix an event more closely than as occurring within a period of twenty years, the division of time next smaller than the *katun* was also used. This was called by the Mayas the *tun*, and contained 360 days, roughly corresponding to our own year. The statement that an event occurred in any given *tun* of a *katun* fixed that event to a definite year within a period of twenty years. Just as we might

describe the Discovery of America as occurring in the second year of the tenth decade of the fifteenth century.

Katuns were named after the days with which they began, or, as some contend, after the days with which they ended. This difference of opinion, however, is merely a quibble as to the starting-point, and does not affect the sequence of the katuns, which is the same in either case. In this discussion, katuns are regarded as having been named after the days with which they began. The Maya katun always began with a day called Ahau, and the different katuns were distinguished from each other by a numerical coefficient ranging from 1 to 13 prefixed to the name of this day. The beginning days of katuns, however, did not follow each other in the order that would suggest itself as natural to us, namely: 1 Ahau, 2 Ahau, 3 Ahau, and so on, but in the following order: 13 Ahau, 11 Ahau, 9 Ahau, 7 Ahau, 5 Ahau, 3 Ahau, 1 Ahau, 12 Ahau, 10 Ahau, 8 Ahau, 6 Ahau, 4 Ahau, 2 Ahau, 13 Ahau, and so on. This order, irregular as it may appear, arises quite naturally from the necessities of Maya Chronology. It follows, therefore, that any given katun could not recur until after an interval of 13 times 1 katun or its equivalent 20 tuns, or after a lapse of approximately 260 of our own years. Consequently any event stated as occurring in any given tun of any given katun fixed that event to a definite year in a period of 260 years, which was probably close enough for general purposes. No higher unit of time than the katun appears in *The Books of Chilān Balam*, though the Mayas of Yucatan may well have known a higher unit, since the Mayas of the Usamacinta region, an older habitat of the same culture, were familiar with a higher period composed of 20 katuns or about 400 years.

The events recorded in the five different chronicles agree fairly well with each other, as Brinton demonstrated in his "Synopsis of Maya Chronology." In some accounts, to be sure, katuns are omitted, and in others they are inserted, and in still others the same katun is repeated twice or even thrice. But when all five are studied comparatively, each acts as a check upon the other, and the context is usually such that there can be but little doubt that the Brinton sequence is, in the main, the actual arrangement of the katuns in their proper order.

According to his arrangement, 70 katuns elapsed from the earliest event recorded in the Chronicles to the Spanish Conquest, a period of nearly 1400 years.

Just after Katun 2 Ahau, in which the first appearance of the Spanish off the coast of Yucatan is mentioned, there is recorded a date in both Maya and Christian notation, apparently with extreme accuracy. This date is the death of a certain native chief called Napot Xiu, which is said to have occurred in a Katun 13 Ahau, while yet 6 tuns were lacking before the end of that katun on the day 9 Imix, which was the 18th day of the month Zip. The chronicler further states that this event took place in the Year of Our Lord 1536.

On the basis of this statement, Mr. Charles P. Bowditch assigned the date 34 A.D. to Stela 9 at Copan, although in so doing he was obliged first to make two changes in the original text. Another correlation of Maya and Christian Chronology is that made by Professor Eduard Seler on the strength of a passage in The Book of Chilán Balam of Mani. This passage states that the beginning day of Katun 5 Ahau, which was in the Year of Our Lord 1593, fell on the 15th day of the month Tzec, although a correction in the text is again necessary, before this statement can be utilized. Professor Seler's correlation gives 1255 B.C. as the date of Stela 9 at Copan, nearly 1300 years earlier than Mr. Bowditch's date for the same monument.

To accept either Mr. Bowditch's correlation or Professor Seler's, two important postulates are necessary:

(1) That the day Ahau is shifted forward from the 2d, 7th, 12th, or 17th positions in the month as found in The Books of Chilán Balam to the 3d, 8th, 13th, or 18th positions so as to agree with the inscriptions of the Usamacinta area. This shift includes a corresponding change of one place in the position in the month of all the other days; and

(2) That this change in no way disturbed the continuity of the sequence of the katuns.

The first of these postulates, it must be borne in mind, necessitates actual changes in the original texts upon which the correlations are based, and the second cannot be verified until we know the exact nature of the change which was made.

For some unknown reason the Mayas of Yucatan had gained

a day over the older cities of their culture. In the Usamacinta area, the day Ahau could be only the 3d, 8th, 13th, or 18th day of a month, and the day Imix, that on which the native chief Napot Xiu is said to have died, could be only the 4th, 9th, 14th, or 19th day of a month. Now, in *The Books of Chilán Balam*, where this event is recorded, the death of Napot Xiu is clearly stated to have been on a day Imix which was the 18th day of the month; and in the passage from *The Book of Chilán Balam* of Mani used by Professor Seler, the day Ahau is said to be the 15th day of a month, which Professor Seler would correct to the 17th. Judging from *The Books of Chilán Balam*, then, it would seem that the Mayas of Yucatan assigned a slightly different position to the days in the month than did the Mayas of the Usamacinta cities, Copan, Quirigua, and Palenque, for example. Or, in other words, that in the course of time a change had come about, so that the day Ahau was no longer the 3d, 8th, 13th, or 18th in the month, but the 2d, 7th, 12th, or 17th, and similarly that the day Imix had shifted from the 4th, 9th, 14th, or 19th position in the month to the 3d, 8th, 13th, or 18th. Indeed, some kind of a change or alteration in the calendar is actually recorded in two of the chronicles in these words, "Then Pop was set or counted in order," Pop being the first month of the Maya year.

There is another serious objection to these correlations, however, which must be explained before either of them can be accepted as definitive. If we substitute the Initial Series assigned by Mr. Bowditch to the year 1536, in the sequence of the katuns as given by Brinton, and count backward to the Initial Series of the Chichen Itza lintel, we find that this latter date occurred, according to Mr. Bowditch, 70 years before even the earliest mention of Chichen Itza in the *Chronicles*, and 170 years before the founding of the city.

Similarly, Professor Seler's Initial Series for the year 1593 gives the Initial Series of the Chichen Itza lintel a position in the sequence of the katuns over 1300 years before the first mention of that city in the *Chronicles*.

To explain away this very evident anachronism one of two assumptions is necessary: Either the Chichen Itza Initial Series is not a contemporaneous date, or the sequence of the katuns, as

given by Brinton, falls short of the true sequence by at least 13 katuns in the case of Mr. Bowditch's correlation, and 77 katuns in the case of Professor Seler's. The first of these assumptions is contrary to the generally accepted theory of Maya dates; and the second is contrary to the best reading of the sequence of the katuns.

There is another, though less vital, objection, since it involves no textual changes, to each of these correlations. In the passage used by Mr. Bowditch, the statement that when the chief Naput Xiu died 6 tuns were lacking before the end of the katun, is not literally true, as Mr. Bowditch himself has shown, since in reality $6\frac{5}{6}$ tuns were lacking, or nearly 7. He explains this, however, by saying the scribe who recorded the event took no cognizance of odd days, but merely counted the whole tuns needed to finish the katuns. On the other hand, the date 1255 B.C. for Stela 9 at Copan, based upon Professor Seler's correlation, is altogether too early. It makes the great cities of the Usamacinta area over 3000 years old, an antiquity that may well be doubted, if for no other reason than the remarkable preservation of delicate sculptures under the action of such a destructive vegetation as now covers the cities of this area.

Before submitting my own correlation of Maya and Christian Chronology, it is first necessary to speak of another change, or, better, abbreviation, in the Maya method of recording events, which was introduced after the period of the Usamacinta inscriptions, but before the period of The Books of Chilan Balam. The practice of naming the katuns in The Books of Chilan Balam after the days with which they began has already been explained. In the older area, however, a different method of recording dates was used; namely, the number of cycles, katuns, tuns, uinals, and kins, which had elapsed from a common normal date 4 Ahau, 8 Cumhu to the event recorded, were stated. Throughout the Usamacinta area the date 4 Ahau, 8 Cumhu was universally regarded as the starting-point of Maya Chronology corresponding to our Birth of Christ. The statement that a certain number of cycles, katuns, tuns, uinals, and kins had elapsed from this normal date to the date recorded, fixed such a date so that it could not recur, filling all the given

conditions, for many thousands of years. For example, the date of Stela 9 at Copan in Maya notation of the Usamacinta area is, 9-6-10-0-0 8 Ahau, 13 Pax, which means that 9 cycles, 6 katuns, 10 tuns, 0 uinals, and 0 kins had elapsed from the normal date 4 Ahau, 8 Cumhu to the date recorded, 8 Ahau, 13 Pax. This same date in The Books of Chilán Balam would have been recorded thus: The beginning of Tun 10 of Katun 8 Ahau, no mention being made of any particular cycle. However, as both Mr. Bowditch and Professor Seler have pointed out, there is no actual difference between these two methods, since the katuns in both instances follow each other in the same order, which is the all-important fact. This change from the Initial Series system of dating, practised in the Usamacinta area to the count by katuns found in The Books of Chilán Balam, was probably due to the fact that the latter is very much shorter and less complicated to record than the former, and fully as accurate as far as it goes; though the recurrence of a date which will satisfy given conditions is not so restricted as in the Initial Series.

For a long time it was thought that the Initial Series method of counting time had never reached the cities of Yucatan, but had collapsed in the Usamacinta area before the great northward migrations of the Maya race; and that the Mayas of Yucatan were familiar only with the abbreviated method used in The Books of Chilán Balam.

A few years ago, however, Mr. E. H. Thompson discovered at Chichén Itza, Yucatan, an inscribed lintel upon which an Initial Series was recorded. This find has never been duplicated, and the Chichén Itza Initial Series has remained, up to the present moment, the only one ever found outside of the Usamacinta area.

It would be difficult to overestimate the archaeological importance of this discovery. It is no exaggeration to say that the Chichén Itza lintel has given us the most important inscription yet recovered from the whole Maya area. This importance is due to the following fact: Chichén Itza, by the discovery of this inscription, becomes the only city mentioned in The Books of Chilán Balam to which it has been possible to assign an Initial Series date. Or, in other words, Chichén Itza is the only city in Yucatan which it has been possible to date

relatively with the older cities of the Usamacinta area. Chichen Itza, therefore, is at the present time the only connecting link between the Initial Series chronology of the Usamacinta and the later chronology of Yucatan as given by The Books of Chilán Balam.

We are now in possession of all the facts necessary to an understanding of the correlation I would propose, which depends on the following postulates :

(1) That the sequence of the katuns as determined by Brinton in his "Synopsis of Maya Chronology" is the correct one ;

(2) That the year 1536 in Christian Chronology occurred sometime during Katun 13 Ahau of Maya Chronology, a postulate which is also necessary in Mr. Bowditch's correlation, as is a similar one in Professor Seler's ; and

(3) That the Chichen Itza Initial Series records a contemporaneous date, a fact now generally admitted by students of Maya Chronology.

These postulates, unlike those upon which the correlations of both Mr. Bowditch and Professor Seler are based, do not ask us to take anything for granted about the positions of the days in the month, which, as we have seen, underwent some kind of a change. For this reason, the correlation which I propose lacks one great possibility for inaccuracy present in the other two. Moreover, the change recorded in the Chronicles states clearly that it has to do primarily with the months — witness the wording, "Pop was set or counted in order." That this change did not disturb the sequence of the beginning days of the katuns upon which my correlation depends would seem to be indicated by the fact that the beginning days of the katuns follow each other in the same order in the Chronicles both before and after this change without an apparent break.

The correlation I propose consists of two parts :

(1) Fixing the position of the Chichen Itza Initial Series in the sequence of the katuns as derived by Brinton from The Books of Chilán Balam ;

(2) Then finding the date in Christian Chronology which corresponds to the Chichen Itza Initial Series, by using the statement in the sequence of the katuns that the year 1536 occurred in a certain Katun 13 Ahau.

After this one point of contact between the two systems has been established, it is a simple matter of substitution to find the position of any Initial Series in Christian Chronology.

The Initial Series of the Chichen Itza lintel, expressed in Maya notation, is 10-2-9-1-9 9 Muluc 7 Zac. This means that the date 9 Muluc 7 Zac occurred on Kin 9 of Uinal 1 of Tun 9 of Katun 2 of Cycle 10. Our first problem then is to find out with what day Katun 2 of Cycle 10 began, because, in the first place, this katun included the Chichen Itza Initial Series within its span, and in the second place, events in The Books of Chilan Balam are rarely recorded more exactly than as occurring within a given katun. It is found that Katun 2 of Cycle 10 began with the date 3 Ahau 3 Ceh expressed as an Initial Series by 10-2-0-0-0 3 Ahau 3 Ceh. This katun would be recorded in The Books of Chilan Balam simply as Katun 3 Ahau; that is, named after the day with which it began, and omitting the month and the period of time which had elapsed from the normal date 4 Ahau 8 Cumhu, as previously explained.

Our next problem is to find in the Brinton sequence of the katuns a Katun 3 Ahau in which there is a stated occupation of Chichen Itza. For some Katun 3 Ahau contained within its span the Chichen Itza Initial Series which we have regarded as a contemporaneous date; and consequently we ought to find in the Chronicles some Katun 3 Ahau in which Chichen Itza is said to have been occupied.

A close study of the sequence of the katuns shows that there are two katuns beginning with the day 3 Ahau in which an occupation of Chichen Itza is clearly stated, and a third during which the site may have been occupied, though the Chronicles do not record the fact. It remains for us to determine which one of these three katuns corresponds to the Initial Series 10-2-0-0-0 3 Ahau 3 Ceh.

The first of these three Katuns 3 Ahau, which we may designate as A, occurred, according to The Books of Chilan Balam, toward the close of the first period at Chichen Itza shortly before the removal to Champoton. The second, which we may call B, fell about 500 years later near the middle of the period of The Triple Alliance between the cities of Chichen Itza, Uxmal, and Mayapan. The third, C, during which Chichen

Itza probably was occupied, though there is no direct statement to that effect in the Chronicles, occurred about 260 years later, some time before the final destruction of Mayapan. It was during this final period, at Chichen Itza probably, that the strong Nahuatl influence so noticeable in the sculptures of this site was felt. This influence may have been due to the fact that Chichen Itza was conquered about this period by the ruler of Mayapan with the help of Nahuatl mercenaries, to whom the city may have been given as a reward for their share in the conquest.

That A was the only possible one of these three Katuns 3 Ahau which could correspond to the Initial Series 10-2-0-0-0 3 Ahau 3 Ceh is proved by several different lines of evidence :

(1) If we assign the Initial Series 10-2-0-0-0 3 Ahau 3 Ceh to either B or C, we reach, in the case of B, an Initial Series 8-8-0-0-0 6 Ahau 13 Mac for the discovery of Chichen Itza as given by The Books of Chilan Balam, and in the case of C, an Initial Series 7-15-0-0-0 6 Ahau 13 Tzee, for this event. To any one at all familiar with Maya Chronology, such Initial Series as these are impossible as designating contemporaneous events. The earliest contemporaneous date at Copan, the oldest site of the Maya culture now known, is 370 years later than the Initial Series given by B, and 630 years later than the Initial Series given by C.

(2) The use of 10-2-0-0-0 3 Ahau 3 Ceh, as the Initial Series value of A, gives 9-0-0-0-0 8 Ahau 13 Ceh as the Initial Series of the earliest event recorded in The Books of Chilan Balam. This Initial Series, which denotes the beginning day of Cycle 9, must have been of peculiar significance to the Mayas, since every one of their dates which it is possible to regard as contemporaneous, with the exception of a few at the beginning of Cycle 10, all fall within Cycle 9. This cycle saw the rise and fall of all the great cities of the Usamacinta area. A thousand years later, when The Books of Chilan Balam were written, the beginning of the cycle in which occurred their Golden Age must have had a peculiar importance to the Mayas of Yucatan, and must have seemed to them an extremely appropriate date from which to start their chronicles. That the land of Nonoual, from which they claim to have come, may have been

mythological, as Dr. Brinton has shown, strengthens our identification of 10-2-0-0-0 3 Ahau 3 Ceh as the Initial Series corresponding to A. In the departure from Nonoual in 9-0-0-0-0 8 Ahau 13 Ceh, which this Initial Series value for A gives, we have not the record of an actual historical event, but of a mythological event. The land of Nonoual may well be a mythological place agreed upon, perhaps by the priesthood, at a much later time as the original home of the Maya race, and the beginning of Cycle 9 must have seemed to them a very appropriate date for that migration to have started. The use of either B or C as corresponding to 10-2-0-0-0 3 Ahau 3 Ceh, on the other hand, again gives impossible Initial Series for the opening event in The Books of Chilán Balam from the Maya point of view.

It is very significant that the use of A gives such an important round number in Maya Chronology as the beginning of Cycle 9 as the date of the earliest event recorded in the Chronicles, *i. e.* the departure from the former home of the race.

(3) A third reason for choosing A as corresponding to 10-2-0-0-0 3 Ahau 3 Ceh is that, if we do so, a very natural historical cause for the decay of the Initial Series system of reckoning time develops. In 10-3-0-0-0 1 Ahau 3 Yaxkin, about ten years after the Initial Series of the Chichén Itzá lintel, the Mayas abandoned that site according to The Books of Chilán Balam, and removed to Champotón, on the west coast of Yucatán, near Campeche. Including the forty years' wanderings in the wilderness before reaching Champotón, and another forty years after the abandonment of Champotón, in all 360 years elapsed before the Mayas returned, and occupied Chichén Itzá a second time. During this long exodus, a great part of which was spent in wandering without fixed homes, the knowledge, or at any rate the general use, of the Initial Series may have been forgotten. The use of either B or C, on the other hand, develops no long gap, like the removal to Champotón, in the sequence of the katuns to account for the discontinuance of the Initial Series.

(4) A fourth reason for using A as corresponding to 10-2-0-0-0 3 Ahau 3 Ceh is, that if we omit the part dealing with the month in the passage from The Book of Chilán Balam

of Mani used by Professor Seler in his correlation, the correlation I propose receives satisfactory corroboration from this source. My correlation assigns to Stela 9 at Copan a date between the years 284 and 304 A.D., depending upon what tun of Katun 13 Ahau coincided with the year 1536. Using the passage in *The Book of Chilán Balam of Mani*, amended as I propose, which states that the first tun of Katun 5 Ahau occurred in 1593, a date 282 A.D. is reached for Stela 9 at Copan. This date 282 A.D. is within 2 years and 22 years respectively of the two limits 284 and 304 A.D. reached by my correlation for this monument. Moreover, if we care to assume that the date of Naput Xiu's death was 9 Imix 19 Tzec instead of the 9 Imix 18 Tzec actually recorded, as Mr. Bowditch was obliged to do in order to reach his correlation, my date for Stela 9 at Copan becomes 294 A.D., or within 12 years of the date for this monument reached by a different process based upon a different passage in the *Chronicles*.

A comparative idea of the three correlations presented in the foregoing discussion is best gathered by a review of the dates in Christian Chronology which they assign to the same Initial Series, — Stela 9 at Copan, for example. Professor Seler's date of 1255 B.C. for this is by far the oldest; Mr. Bowditch's date, 34 A.D., comes next. My own correlation assigns a date to this monument somewhere between the years 284 to 304 A.D., which an assumption made by both Mr. Bowditch and Professor Seler in their correlations would narrow to 294 A.D. Finally, the passage from *The Book of Chilán Balam of Mani*, as I have amended it, gives the date of this monument as 282 A.D.

I suggest, in conclusion, that in view of the evidence presented, the correlation which I have proposed is less open to error than either of the other two for the following reasons:

- (1) It involves no textual changes in the original sources as do the other two;
- (2) It develops no anachronism as do the other two; and
- (3) It presumes less in its postulates than do the other two.

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